STATEMENT OF MARION BLAKEY, ADMINISTRATOR OF THE FEDERAL AVIATION ADMINISTRATION BEFORE THE SENATE COMMERCE COMMITTEE, SUBCOMMITTEE ON AVIATION ON SAFETY ISSUES, NOVEMBER 17, 2005.

Chairman Burns, Senator Rockefeller, Members of the Subcommittee:

I am pleased to appear before you today to discuss some of the Federal Aviation Administration's (FAA) many important safety initiatives and how they contribute to extending this unprecedented aviation safety record. In the United States, the three year average commercial accident rate is .017 accidents per 100,000 departures. To put that in more understandable terms, that accident rate is the equivalent of one fatal accident for every 15 million passenger carrying flights. This means that we are living in the safest period in aviation history. All of us who work for and with aviation safety professionals take pride in the results of our collective efforts, especially given the economic turbulence being experienced by U.S. carriers. But even as we recognize how safe it is to travel in commercial air transportation, we must look beyond to face the challenge of how to make the system safer. How can we continue to improve aviation safety as demand and complexity increase? We are facing record setting passenger numbers, new light jets, UAVs, . . . even space travel is not as far away as it once was. We cannot afford to rest on our laurels.

Since it would be impossible for me to cover in any significant detail the extremely broad range of FAA safety initiatives, I will focus my remarks on two areas that I know are of interest to this subcommittee, our oversight of aircraft maintenance and our efforts to

reduce runway incursions. I think you will find our efforts in these areas to be innovative and effective.

Over the last several years, FAA has changed the way we oversee aircraft maintenance. In the past, FAA's inspectors were required to complete a prescribed number of oversight activities focused on compliance with FAA regulations. In 1998, FAA began overseeing the ten largest airlines using the Air Transportation Oversight System (ATOS) model which goes beyond simply ensuring regulatory compliance. The goal of the oversight model is to foster a higher level of air carrier safety using a systematic, risk-management-based process to identify safety trends and prevent accidents. ATOS has improved safety because it identifies and helps manage risks before they cause problems by ensuring that carriers have safety standards built into their operating systems.

This oversight approach leverages FAA's inspector workforce by reducing the likelihood of repeating inspections of the same aircraft or function, unless deficiencies were found in prior inspections of the aircraft or function. Our inspectors develop safety surveillance plans for each air carrier based on data analysis, and adjust plans periodically based on identified risks. For example, with so many of our legacy carriers in financial distress, FAA inspectors can adapt their surveillance plan to increase their focus on areas that might be at risk due to financial cut-backs, such as training, quality assurance and quality control processes, and to ensure that discrepancies reported by pilots are properly addressed. I know it is important to the Inspector General (IG) that our inspectors have

the tools and information necessary to be flexible in our oversight of carriers as their financial and operational situation changes.

I also know that the IG agrees with us that our new approach to oversight is a better way to make the best use of agency resources as well as to improve safety. We are currently moving all air carriers to this oversight system. In the interim, we created the Surveillance and Evaluation Program (SEP) to bridge between the old system – where inspectors went out and "kicked the tires" – and this new oversight approach. SEP inspectors use data and risk analysis in targeting their inspections to areas within the air carrier's operation that pose a greater safety risk. Both inspection approaches use the Safety Performance Analysis System (SPAS), a computer based system that analyzes inspection and air carrier data to help inspectors identify safety problems. The IG would like to see us move more carriers more quickly from the interim inspection approach to the new approach, and we are working within our existing resources to do that.

This change in oversight recognizes that FAA cannot be expected to provide quality control for every airline or effectively police millions of flights. The laws you passed and the regulations we implement all place the responsibility for safety on the airlines.

FAA's role is an important one, and we see this new approach as making better use of our resources. By focusing on risk we can determine how well the airline is managing its processes and whether or not the processes are performing as designed to meet the safety standards. Our inspection tools are designed to collect data for these purposes. Our oversight systems engage air carriers in the management of their safety issues.

I am very aware of your concern with U.S. carriers having more of their maintenance performed by repair stations, both foreign and domestic. Oversight of repair stations is a good example of why our current focus on risk management is preferable to compliance based oversight. We know FAA inspectors cannot oversee all maintenance performed on U.S. aircraft, but if some maintenance component is identified as a risk, our oversight focus would be triggered, regardless of who or where the maintenance is performed.

That having been said, we continue to work to improve our process for targeting inspector resources for oversight of repair stations based on risk assessment or analysis of data collected on air carrier outsourcing practices. We are also working on improving our automated data basis to more thoroughly document repair station inspections in order to provide the most helpful guidance to our Flight Standards Field Office inspectors. I know our efforts in these areas have been identified by the IG as being very important. The intent of our current policy is to standardize repair station inspections to provide better consistency and thorough oversight. As we consider different models of repair station oversight, we are mindful that our goal is to obtain data that is useful in our ongoing risk analysis.

I know there has been particular sensitivity to U.S. carriers' use of repair stations outside the U.S. The concern has been that such practices, done solely to reduce maintenance costs, could have unintended safety consequences. The reality is that FAA only certificates repair stations abroad if U.S. carriers want to use the repair station and if the

station meets our certification standards. FAA performs periodic inspections of these foreign repair stations. In addition, many of them hold certificates from their own countries who also perform audits and inspections. In several countries where we have Bilateral Aviation Safety Agreements (BASA), we have outlined maintenance information procedures (MIP) to ensure that foreign inspectors are placing appropriate emphasis on the Federal Aviation Regulations when conducting reviews of work done on U.S. aircraft. In these countries, we rely on the oversight of the aviation authority in addition to our periodic inspections. We are also working to ensure that these foreign aviation authorities inform and seek FAA approval of changes to repair stations operations if they directly impact FAA requirements.

It is also worth noting that a recent regulatory change has increased the accountability of all repair stations for maintenance that they contract out to third party providers. The repair station is required to be directly in charge of the work performed by third party providers and FAA now has the authority to inspect contract work performed for repair stations.

I am confident that the changes we have made in our oversight philosophy and the work we continue to do with input and assistance from the aviation community, Congress, and the international community has contributed to this historically safe period of commercial aviation safety. Our safety oversight must keep pace with the industry as it changes and I think we are well positioned to accept that challenge.

Turning to another of the FAA's top priorities, I would like to discuss agency efforts to reduce the number and risk of runway incursions. As outlined in the *FAA Flight Plan* 2006-2010, the FAA is developing a range of initiatives from airport design concepts to surface movement procedures. Related efforts address the errors committed by pilots, air traffic controllers, and airport-authorized vehicle operators and pedestrians. We have set performance targets and we are holding ourselves accountable for meeting those targets. We are working hard and making progress, but we are not there yet.

Let me start with where we are today. The United States National Airspace System (NAS) has nearly 500 FAA and contract tower staffed airports that handle more than 176,000 aircraft operations – takeoffs and landings – a day, averaging approximately 64 million airport operations per year. Of the approximately 257 million aircraft operations at U.S. towered airports from FY 2001-2004, there were 1,395 reported runway incursions. This translates into approximately 5.4 runway incursions for every one million operations and less than one serious runway incursion for every one million operations. There were five collisions during this period, none of which resulted in a fatality. So when viewed in the context of the total number of operations, the number of incursions is low which means that further reducing the rate is quite a challenge, but a challenge we are undertaking.

Because we are taking it seriously, the FAA reconstructs each runway incursion using the available information and plots the approximate location of each event on airport diagrams. During this exercise, we systematically categorize each runway incursion in

terms of its severity. Severity Categories A through D (A being the most serious, D the least) consider factors such as the speed and performance characteristics of the aircraft involved, the proximity of one aircraft to another aircraft or vehicle, and the type and extent of any evasive action by those involved in the event. Aircraft involved in runway incursions are grouped into either commercial or general aviation operations. Incidents are further categorized into three error types: pilot deviations, operational errors/deviations, and vehicle/pedestrian deviations. It is important to remember that runway incursions do not occur in a vacuum. The actions of pilots, air traffic controllers and vehicle drivers are intermingled and can significantly impact one another.

We have made important progress over the last few years, especially in reducing serious Category A and B runway incursions by more than 40 percent since FY 2001. In FY 2005, we had a total of 324 runway incursions. Twenty-nine of those were Category A and B incursions, which is less than 10 percent of the total. In terms of error types, there were 167 pilot deviations, 105 operational errors/deviations, and 52 vehicle/pedestrian deviations. While pilot deviations are the most common type of runway incursion, they accounted for only 31 percent of serious incursions in the past fiscal year. Operational errors/deviations, on the other hand, accounted for only 32 percent of total deviations, but 55 percent of serious deviations which represents a notable change in the distribution of runway incursion types with respect to severity. Unfortunately, in the last fiscal year we had three Category A runway incursions between two commercial jets, an event that had not occurred for the previous three years. These are the types of statistics our runway

incursion safety team continuously analyzes in order to understand where our efforts will have the greatest impact in reducing risk.

During their most wanted meeting, the National Transportation Safety Board (NTSB) highlighted the Category A incursion that took place at Boston Logan International Airport in which two commercial aircraft almost collided. We certainly share the NTSB's concern about this incident, so I would like to describe what we have done in response. We have imposed temporary procedural restrictions until such time as controllers receive additional training to result in improved coordination within the tower. Increased runway incursions at Logan are also attributable to construction on the airfield that has caused some pilots to inadvertently cross over a runway hold short line instead of stopping. We are improving taxiway centerline markings and surface-painted holding position signs to better define hold short locations for pilots. We expect completion of this paint enhancement by mid-year 2006. Further, in October we put together a "Tiger Team" to develop other short, mid- and long-term initiatives to further reduce risk on the airport surface. Additionally, we have developed a software enhancement to the Airport Movement Area Safety System (AMASS) that adds alert capability for intersecting runways. Installation at Logan was completed last week.

FAA is also working closely with other airport sponsors to address runway incursions. Just last week, I met with the City of Los Angeles and discussed the chronic runway incursion problem at Los Angeles International Airport (LAX). Roughly 80 percent of runway incursions at LAX occur on the south side of the airport. It is important to note

the current airfield layout was designed to accommodate jetliners that were in service over 40-years ago. The City's recently completed Master Plan for LAX identifies changes in the airfield layout to resolve this problem.

On May 20, 2005, FAA issued its Record of Decision for the City's Master Plan. In August FAA issued a grant to the City for approximately \$38.8 million for the relocation of the southern most runway and the addition of a new parallel taxiway at LAX. This project is expected to significantly reduce runway incursions at LAX. The City has an aggressive schedule to begin the project in January 2006 and complete it in about 26 months. We also stressed the importance of addressing runway incursions on the north side of LAX. The City plans to reconfigure the north airfield with a parallel taxiway as well to reduce runway incursions on that side of the airport. This project is currently scheduled to begin in six to eight years.

Overall, we are taking a proactive approach to address operational vulnerabilities through awareness, education, procedures, airport infrastructure, and surface technology initiatives. The FAA has worked with external organizations, airport officials, and safety experts to increase surface safety awareness on a national level. We have developed and promoted runway safety training material in conjunction with organizations such as the Aircraft Owners and Pilots Association (AOPA) Air Safety Foundation. Efforts have included the creation of an interactive Web-based program to inform pilots about preventing runway incursions. The program, accessible from both the FAA and AOPA web sites, provides an introduction to runway incursion risk, information about airfield

signs and markings, and strategies for enhanced position awareness and improved cockpit management. Throughout the program, various quizzes, tasks, and information visualization tools offer an interactive learning experience. Since its inception, an average of 1,800 pilots a month have completed the training program.

We have also created a brochure, <u>Runway Safety</u> - A Pilot's Guide to Safe Surface

Operations which highlights the importance of pre-taxi planning and properly identifying aircraft signs and markings. Over 500,000 brochures have been distributed to pilots through the AOPA magazine, <u>AOPA Pilot</u> and in a direct mailing to certified flight instructors and designated pilot examiners to supplement their training materials.

Additionally, we collaborated with famed aerobatic pilot Patty Wagstaff and influential aviator Dick Rutan to produce educational DVDs. These DVDs review the fundamentals of airport operations through a series of common sense rules and standard communication procedures. Since the first DVD, <u>Heads Up</u>, <u>Hold Short</u>, <u>Fly Right</u> was released last year, flight instructors and pilots alike have consistently praised it. We believe the second film, <u>Listen Up</u>, <u>Read Back</u>, <u>Fly Right</u>, will merit the same response. Producing effective resource materials is a vital part of our continued outreach.

In addition to the work we are doing with Boston Logan and LAX, we have identified what we refer to as the Focus-35 airports, those airports that reported the most runway incursions from FY 2001 to 2004. For example, of those 35 airports, 30 airports reported more than 10 runway incursions during the four-year period. During that period, the Focus-35 airports handled 20 percent of all NAS operations yet accounted for 41 percent

of all runway incursions (565). Through airport infrastructure and safety management programs, some of these airports have successfully reduced the number of runway incursions in the last year or two. The Focus-35 airports accounted for 39 percent of the Category A and B runway incursions. However, the number of such incursions decreased by 71 percent, from 24 to seven, from FY 2001 to 2004. Continued implementation of risk mitigation strategies at the Focus-35 airports offers the most immediate opportunity to continue to reduce the severity, number, and rate of runway incursions in the NAS.

As presented in the *FAA Flight Plan 2006-2010*, the FAA's performance target is to reduce the number of Category A and B runway incursions to an annual rate of no more than 0.450 per million operations by FY 2010. Analysis of the trend of runway incursions from 2001 through 2004, shows that the rate of reduction flattened, suggesting that the runway safety management strategies that have been implemented early in that period had achieved their maximum effect. Therefore, in order to achieve our stated targets, the FAA must identify new strategies and re-prioritize their application.

That is why we are currently deploying a newer warning system called Airport Surface Detection Equipment-Model X (ASDE-X) to further enhance safety and improve "error tolerance"—as human error is inevitable. ASDE-X capabilities will be added to some of the sites that already have AMASS, as well as being deployed to additional busy airports. The FAA is also evaluating Runway Status Lights, an automatic system designed to improve the situational awareness of pilots and vehicle drivers through visual alerts. Red

in-pavement runway entrance lights are illuminated if the runway is unsafe for entry or crossing, and red in-pavement takeoff hold lights are illuminated if the runway is unsafe for departure. The operational evaluation of runway entrance lights using ASDE-X surface surveillance occurred at Dallas/Ft. Worth International Airport and the system showed promising initial results. The lights were compatible with the tempo and style of operations at a busy airport, there was no increase in air traffic controller workload, and the lights proved useful to pilots. In the future, Runway Status Lights could help mitigate runway incursions like the one at Boston Logan to which I referred. Unfortunately, this program is still in the research and development stage and will not be ready for fielding for several years. Another effort worth mentioning is a change to the airfield paint markings standard for taxiway centerlines at 72 large airports, based on enplanements. We are requiring the new markings as another proactive way to alert pilots when they are approaching hold short lines so they do not inadvertently enter a runway without authorization. We will continue to pioneer work that offers the greatest opportunity for improving NAS-wide runway safety.

Mr. Chairman, the FAA's commitment to improving safety and extending the excellent safety record we are currently experiencing is our number one priority. I hope some of what I have shared with you today exemplifies that commitment. Of course, as I stated at the outset, FAA is involved in hundreds of important safety initiatives and what I have highlighted represents only a small fraction of what we are doing and what has contributed to today's impressive safety record. So, while this concludes my prepared

statement, I will be happy to answer your questions on any of our important safety initiatives.